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ABSTRACT

This paper describes procedures, exercises, methods, sequences, and data used by the authors in organizational training with schools and school districts. The technology described is aimed at improving working relationships within a school building or district. The focus of intervention is on the organizational interactions of role occupants, not on personalities. Participants in the training were the entire staff of a junior high school in one project and a school district, including several schools in the district, in a second project. (Author/MF)

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Technology for Organizational Training in Schools

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TECHNOLOGY FOR ORGANIZATIONAL TRAINING IN SCHOOLS

According to Warren Bennis (1966, p. 120), the first direct application of the "laboratory method" to the functioning of an organization was made in 1958. Since then approaches developed through the NTL Institute for Applied Behavioral Science have been tried out in countless organizations. Although the T-group (training group) has been associated with the National Training Laboratories (NTL) and the laboratory method in general (Bradford, Gibb, and Benne, 1964) and is still practiced as the pivotal tool in many organizational change programs (Bennis, 1966; Schein and Bennis, 1965; Argyris, 1964; Rice, 1965), other approaches have been effective (Schein and Bennis, 1965; Crosby and Schmuck, 1969; Golembiewski and Blumberg, 1967). The present paper describes procedures, exercises, methods, sequences, and data we have used in organizational training with schools and school districts.[1] Our methods find their roots in the laboratory method developed by NTL, but the T-group is not a major part of them.

The technology described in this paper is aimed at improving working relationships within a school building or district. The focus of intervention is on the organizational interactions of role occupants, not on personalities. The major differences between organizational and T-group training are spelled out in the theoretical paper written as a companion

to this one (Schmuck, Runkel, and Langmeyer, 1969).

Overview of Method

There are many strategies that could be employed to help school districts improve their use of human resources. Teachers and administrators frequently attend classes, workshops, and in-service training to learn from experts the latest findings in social psychology and sociology. This strategy remains relatively ineffective for changing school organization. Typically, commitment is low, supportive behavior is minimal, and structural changes to augment changed styles of leadership and decision-making are non-existent. At best, participants increase their ability to preach about how the school "ought" to be run.

A T-group provides an arena where a participant can explore the impact of his behavior on others; where he can experience the forces affecting a group's commitment to a decision, its cohesiveness, level of trust, and openness; where he can experience social-psychological concepts such as power, status, influence, and leadership styles; learn to express and deal with his feelings; try out new behaviors; learn to appreciate and accept human differences; and to explore the assumptions and theories he has about human behavior. Our experience has been that when T-groups are held with members of the same organizational family, the short-term effects often are an increased level of trust and openness,

high cohesiveness and commitment to the group, dispersion of leadership, appreciation of the strengths and potential contribution of members, etc. But research evidence has not shown that the T-group alone will bring about the increased efficiency, effectiveness, and organizational growth that are the goals of organizational training (cf. Campbell and Dunnette, 1968; Friedlander, 1968; Lansky, et al., 1969).

In contrast to the above methods, we try to teach, legitimize, and make normative a systematic, adaptive, and flexible problem-solving sequence. The sequence begins with clarifying the problem areas or desirable end-states, goes on to evaluate the forces acting to keep problems from moving toward solution (force-field analysis), then to setting priorities on the forces to be increased or decreased, to making plans for action, and, finally, to evaluating the effects of the action taken. To prepare for systematic problem-solving, we emphasize the acquisition of communication skills. We have concentrated on paraphrasing (making sure that you understand the other person's message), behavior description (describing what you see behaviorally, avoiding inference), description of feelings (describing feelings, not inferences or thoughts), and perception checking (describing to another how you think he is feeling so that he can verify or deny your supposition).

The importance of introducing and practicing skills of communication and listening cannot be overstated. Acquiring these skills is the

basis of improving meetings, clarifying supervision, dealing with emotions as problems, giving helpful feedback, and generally extending the domain of legitimate and effective areas of communication. Practice in these skills is worked in to almost all of the exercises and activities in our organizational training.

We have worked with a single building staff for one year (Schmuck, Runkel, and Langmeyer, 1969) and a school district (including several schools within the district) for one-and-one-half years and will continue to work with the district until March, 1970. The difference in size between the two projects made differences in the details of our training and in the new organizational structures we sought to establish through our training; however, the goals for training were the same. In the single building we were able to carry out a full program of organizational training that included an initial workshop with the entire school staff and two additional one-and-one-half day workshops during the year. We did not have the manpower to staff a training program of similar scope for each of the fifteen schools in the total school district, nor would that have dealt adequately with the problems of coordination that existed between subsystems in the district. We hoped to leave the school district only after some organizational training had been undertaken with several units at all levels of the organization (central office, supporting services, schools) and cross sections of the organizational hierarchy. Most important to

our goals of self-renewal was the training of a legitimized number of members as "communication consultants" who will function as we have functioned in the school district.

Despite the different training programs in the two projects, our work with any particular target group has emphasized problem-solving or communicative skills, or both, and has typically involved these seven steps:

1. Initial contact with members of the school district (so far, our contacts have been initiated by members of the school district).

2. Commitment from the school district and from us of specified amounts of time and energy; setting up the contract; establishing our role as consultant, change-agent, and trainer; clarifying the status of the trainer as consultant to the entire school district rather than to one segment such as the administrators.

3. Data-gathering concerning educational goals and concerns -- diagnosis.

4. Feedback of data to the target group.

5. Setting goals for organizational training with the target group.

6. Carrying out a training program over an extended time period.

7. Data-gathering concerning effects of the training.

This sequence has certain strengths. One of the most important

sources of learning available to the target group is the trainer's behavior. It is visible as they work through some of the problems encountered: how the trainers handle the suspiciousness and distance during initial contacts, how the diagnostic interviews are conducted, how the data from these interviews are fed back to the target group, how the trainers orient themselves to the crises that arise during the training, how the trainers deal with intense emotional situations, etc. For the trainers not to be open to feedback, to be defensive or hostile, would be a serious deficit. In light of this source of learning, the team of trainers tries to be as visible as possible. It is not uncommon to demonstrate conflict management and productive intragroup conflict by actually working through a disagreement (unplanned and real) while the trainees watch and listen -- if it does not take too long.

Another strength is that the initial contact and the areas of resistance encountered from the school district can provide very valuable diagnostic data (Alderfer, 1968). These data are not typically withheld from the target group and can provide important feedback to the target and an important demonstration of the use of behavior description and perception checking in the problem-solving sequence.

Early contacts with the school district also provide opportunities to demonstrate a preferred style of decision-making -- one that involves a commitment to the decision as well as an attempt to reach an optimal

decision. The training program is developed from the stated needs and goals of the target group and is presented to the target group for modification and approval. Trainers at this stage usually look for indirect signs of resistance. In this way, when training does begin, the probability of obtaining the necessary time, energy, and trust from the target group is increased.

We assumed that the members of our school district would be likely to attempt new interpersonal procedures if they could first practice them away from the immediate demands of the school day. At the same time, we assumed that transfer to everyday work of the schools would be maximized if they expected to continue problem-solving activities on their own after each training event and if the training design called for additional training some weeks and months later. We believed that applications to the work of the school building would be maximized if the faculty dealt with real organizational problems even during the early stages of training. Finally, we assumed that learning would be facilitated and transferred more effectively if the training could have some immediate and demonstrable effects. With this overview as a base, let us look at the training designs for a single school building staff and an entire school district.

The Training Design for a Single Building Staff

The training commenced with a six-day laboratory in late August of 1967. Staff members present included almost the entire staff of the junior high school. The first two days were spent in group exercises designed to increase awareness of interpersonal and organizational processes; e.g., the NASA Trip-to-the-Moon exercise, the five-square puzzle, and the hollow-square puzzle.[2] Although these exercises were game-like, they demonstrated the importance of clear and effective communication for accomplishing a task collaboratively. After each exercise, small groups discussed ways in which the experience was similar to or different from what usually happened in their relations with one another in the school. All staff members then came together to pool their experiences and to analyze their relationships as a faculty. Each small group chose its own way to report what it had experienced. Openness in giving and receiving feedback about perceptions of real organizational processes in the school were supported by the trainers. Brief but specific training was given in clear communication, overcoming difficulties in listening, and skills in describing another's behaviors. A couple of nonverbal exercises augmented this practice.

The faculty devoted the last four days to a problem-solving sequence, working on real issues that were thwarting the organizational functioning of the school. After a morning of discussion and decisions, which also

served as practice in the skills of decision-making, three problems were identified by the school staff as the most significant:

1. Insufficient role clarity, especially in the roles of principal, vice-principal, counselors, and area (departmental) coordinators.

2. Failure to draw upon staff resources, especially between academic areas but also within subject-matter specialities.

3. Low staff involvement and low participation at meetings of committees, areas, and the full faculty.

Three groups formed, each to work through a problem-solving sequence directed toward one of these problems. Each group followed a procedure having five steps: (1) identifying the problem through behavioral description, (2) diagnostic force-field analysis, (3) brainstorming to find actions likely to reduce restraining forces, (4) designing a concrete plan of action, and (5) trying out the plan behaviorally through a simulated activity involving the entire staff.

Each of the three groups carried through its sequence of steps substantially on its own; the trainers served as facilitators, rarely providing substantive suggestions and rarely pressing for results. The group concerned with clarifying roles reasoned that an ambiguous role was often a sign of interpersonal defensiveness and that a first step must be to increase trust among the faculty. Accordingly, they carried out four non-verbal exercises to increase trust among the faculty.

The group concerned with use of staff resources set up eight subgroups, each of which was to pretend to be a school faculty meeting a crisis due to lack of texts; each group then developed curricula drawing upon one another's resources. The group on low staff involvement arranged for three groups to have discussions on role clarification, staff resources, and staff involvement. During the discussions, the more loquacious members in each subgroup were asked one after another to stop participating until there were only two members left. Discussions were then held in each group on feelings toward involvement of the staff. The first week of the training culminated with a discussion to highlight the resources of the staff. Staff members described their own strengths and those of their colleagues. Finally, they discussed what their school could be like if all the strengths of the faculty were used.

During the early fall we interviewed all faculty members and observed a number of committees and subject-area groups to determine what uses they were making of the first week of training. The data indicated that problems still unresolved were communicative misunderstandings, role overload, and capabilities for group problem-solving.

The second training-session with the entire staff was held for one-and-one-half days in December. We attempted to increase the effectiveness of the area coordinators as communication links between teachers and administrators, to increase problem-solving skills of the

area groups and the Principal's Advisory Committee, to help the faculty explore ways of reducing role-overload, and to increase effective communication between service personnel and the rest of the staff. Training activities included communication exercises, problem-solving techniques, decision-making procedures, and skill development in observing and giving feedback. On the first day, area (departmental) groups applied problem-solving techniques to their own communicative difficulties and received feedback from observing area groups on their methods of work. Problems raised in area groups were brought the next day to a meeting of the Principal's Advisory Committee held in the midst of the rest of the staff. Staff observed the Advisory Committee in a fishbowl arrangement, participated in specially designed ways, and later gave feedback on how effectively the committee had worked and how accurately members had represented them.

The third training intervention also lasted one-and-one-half days and took place in February. The main objective was to evaluate how the staff had progressed since the workshop in solving the problems of resource use, of role clarity, and of staff participation, and to revivify any lagging skills. A group discussion of each problem-area was held. Each teacher was left free to work in the group considering the problem that most interested him. Each group discussed the positive and negative outcomes of its problem. For example, in the group discussing staff

participation, the question was: "In what ways has staff participation improved and where has it failed to improve?" The group wrote out examples of improvements, no changes, and regression in staff participation. The groups then focused on the negative instances and tried to think of ways to eliminate them by modifying organizational processes in the school. Faculty members continued with this activity in small groups during the spring without our presence.

Evaluation

Our work with schools includes developing training techniques and programs and evaluating the effects on the functioning of the school. In the junior high school, we collected evidence of organizational changes as well as questionnaire data. We had data from schools not engaged in organizational training with which to compare the results from the target school.[3]

From the point of view of research, we hoped to learn whether improved organizational problem-solving could be produced by carefully integrating training in communication and problem-solving skills within the context of the living school, beginning the training just prior to the opening of school and continuing intermittently for some months. We interpreted the data to support the claim that a number of desirable outcomes were at least partly due to our intervention. Many teachers began using a greater variety of more effective group techniques in their

classrooms. Collaborating sub-groups of teachers increased in strength and number. The Principal's Advisory Committee became more potently and specifically representative rather than merely advisory. Faculty turnover decreased far below the rates at the other junior high schools in the district. Additional organizational training during the summer following our intervention was initiated by the faculty; a number of staff members, including the principal, sought training for themselves in communicative skills and group dynamics. The district established a new variety of vice-principal modeled after a role fashioned at the school following our intervention and the definition of the role included skills in group development and problem-solving.

These definite changes in organizational practice and structure was accompanied by changes in verbally expressed attitudes about the principal and staff meetings; the nature of reported innovations within the school; and norms concerning interpersonal openness, sharing of influence, and use of staff resources. These changes were found in the school where we conducted our organizational training, but not in other junior high schools not engaged in organizational training.

Design for Training with an Entire School District

As we began making plans for our work with the school district, we were aware of several differences between a school district and a

single school building staff that would affect the design:

1. The school district was a much more complex organization than the single building staff and there were many more complex subsystems.

2. The goals of organizational training could be applied to more subsystems in the district: the total district, central office cabinet, central office staff divisions (curriculum, student personnel, business office, etc.), schools, teams of teachers.

3. The single building staff had been trained as an entire unit; norms and roles designed to help the school function as a self-renewing system had been introduced to all. This would not be true in the school district where only some subsystems would receive training at any one time.

These differences resulted in differences in design. Among these differences were gaining approval and commitment from more sectors of the district which slowed down our entry, setting up a steering committee representative of all levels of the district to monitor our training, training only parts of the district, and -- most important to our goal of self-renewal -- providing special training for several members of the district, drawn from a variety of roles, to become "communication consultants" and carry on the work that had been started from outside by us.

Initial Contacts

Our first contact with the school district was through a counselor who had some ties with members of the superintendent's cabinet. Early contact with the superintendent's office was cautious since the district had recently spent a large sum of money for a management-consultant firm to study and recommend a reorganization of the district's organizational structure. This reorganization had been largely accomplished, but among the consequences were a high degree of suspicion on the part of many teachers and a good deal of misunderstanding of the new structure. After gaining initial approval from the superintendent and his cabinet during a meeting in September, 1967, we met with the building principals and representatives of the local educational association. We tried to gain approval from every level of the professional hierarchy so that the project would be "owned" by the entire district and not simply by the management. We hoped, because each building was being represented by a principal and at least one representative to the education association's board, that each building staff would also be committing itself to the project. As it turned out, this was not strongly the case and the process of entering, negotiating, and committing subsystems to engage in organizational training had to be repeated over and over again as our staff approached each school.

A steering committee, composed of representatives from all

levels of the district's professional staff and one from the public sector, was organized to oversee the progress of the project. This committee was to be the liaison between our organization and the school district and was originally intended to have decision-making power and advisory responsibility. The structure and function was designed after Likert's "link-pin" concept (Likert, 1961).

Training a Cross-section of the Leadership in the School District

Our first intervention with the school district was a week-long workshop held at a conference center a short distance from the district in April, 1968. The participants were the "educational leadership" in the district (superintendent, deputy superintendent, three assistant superintendents, business manager, director of special education, director of student personnel, 21 principals and assistant principals, and 29 members of the local education association's executive board). The district paid expenses, and we encouraged the participants in the workshop to sleep and take their meals at the conference center. Most did. This, we felt, intensified the feeling of being in a new environment where new behaviors could be exhibited; it also allowed longer work days. The purposes of the workshop were to start to influence the internal functioning of the superintendent's cabinet, to start to influence the inter-group behaviors of several significant subsystems to make them more collaborative rather than competitive, to provide a rewarding experience

using our methods of organizational training, and to introduce some potent members and levels of the district to organizational training.

The superintendent's cabinet was present during the entire workshop, from 7:30 p.m. on Sunday to 4:30 p.m. on Thursday. They were joined by the principals on Monday afternoon and by the teachers on Tuesday afternoon. The cabinet was alone for a period at the beginning and another at the end of the workshop and all three groups were together for several hours during the middle of the workshop. While the cabinet was alone they worked on their internal functioning. Sunday night, after a brief introduction to the workshop, the cabinet worked on an exercise focused on decision-making: the Trip-across-the-Moon exercise (see Schmuck and Runkel, 1968, pps. 10-15). Later in the evening members of the cabinet were asked to draw charts indicating the degree of influence each member had on decisions reached by the cabinet and the amount of communication occurring between members. This activity was continued Monday morning with the addition of some discussion of aspects of the cabinet's functioning that helped or hindered the effective and satisfying performance of members' roles. Thursday was left relatively unstructured to provide the cabinet with time to share their reactions and feelings to the week's activities and to explore any other issues that were of interest to them.

When the cabinet met with either the principals or the education

association's executive board, each group focused on its perceptions and beliefs about the other group through an imaging exercise (Blake, et al., 1965). The imaging exercise is designed to produce more accurate perceptions and expectations about the behavior of interdependent groups that hold, at the outset, feelings of distrust and even some hostility. The exercise typically reduces the level of distrust and hostility between groups.

All three role-groups met together Tuesday afternoon and evening. During the afternoon, groups were formed containing members from each of the role groups and then worked on several tasks developed as training tools for groups (Langmeyer, 1968; Fosmire et al, 1968). Several participants who had worked on the tasks previously served as observers. the purposes were to put members of the three role-groups into a situation minimizing status differences, to provide an opportunity for the new participants to become accustomed to the training, to teach and legitimize observations of group behavior made by participants, and to provide an opportunity for participants to learn about the impact of their behavior on others and on the completion of the tasks. Tuesday evening members of the three role-groups were again separated into their groups and were introduced to a problem-solving sequence. They were asked to identify some real interpersonal problems that existed in the district which effected the organization. They then used the problem-solving sequence to arrive at actions that would reduce

these problems.

Training with Two Staff Divisions

The divisions of Curriculum and Student Personnel met for three days in September, 1968 at the same conference center where the April workshop had been held. Again, participants were encouraged to stay at the conference center overnight. The two divisions were to have worked together during portions of the workshop, but, as the workshop progressed it became clear that the subsystems were not as interdependent as had been expected. Consequently, to maximize transfer to on-the-job behavior, the focus of the workshop was shifted to the interdependencies within each division. After the standard introduction and practice of communication skills, participants were divided into clusters having similar roles. Within clusters, participants were asked to describe behaviors of one another that were both a help and a hindrance on the job. The purpose was to teach and legitimize feedback to members of one's own role group. Within clusters, participants were asked to construct building-block models of their divisions to represent the influence structure and display their own positions. We hoped that members of each role cluster could share their group image and some of their concerns about their position in the division. Next, the divisions engaged in an organizational exercise focusing on hierarchical role differentiation and the working relationships between planning teams and production teams.

This exercise made salient some of the issues involved in the roles within staff divisions (see Hollow-Square exercise below). The workshop ended with each division engaging in problem-solving to plan for overcoming barriers to effectiveness which existed on their jobs. Because of scheduling difficulties, no follow-up to this workshop was held during the year.

Training in School Buildings

From September, 1968 to May, 1969 we worked with two elementary schools, one junior high school, and two high schools. We chose the particular two elementary schools for two reasons: (1) they were starting team teaching and we wanted experience with this kind of organization and (2) there was more flexible time available from faculty in these schools than usual because they were operating on split schedules. The junior high school was selected at random and the two senior high schools were the only two in the district. Training with "S" junior high school will be described in some detail; the work with the other schools will not be described because to do so would add little new information for the reader.

We spent somewhat more hours at S junior high than at other schools in the district. Several days were spent with "free period" groups -- those whose members had free time together during the same hour of the school day. These groups were introduced to some communi-

cative skills and group exercises. Teachers' schedules were modified so that department groups could meet together to work through a systematic problem-solving sequence focused on problems that kept the department from being a more effective working unit. During these sessions members of the principal's cabinet who had previously engaged in organizational training served as "process" observers and provided feedback and perceptions about the department groups' behaviors (see the section on observers below). The sequence of training at S junior high school was to train the cabinet in problem-solving techniques, then free period groups to introduce communication skills and establish norms for openness and directness, and finally, to introduce departmental groups to a systematic problem-solving sequence and ways of providing useful feedback about their own group behavior. The involvement of such a large percentage of the faculty was accomplished not by using vacation periods or hiring substitute teachers, but through the commitments made by the administration and faculty of the school and the amount of deviation from a normal program that was allowed by the staff.

In conjunction with the organizational training at S junior high school, tape recordings were made of teachers' classroom behavior both at S junior high school and another junior high school in the district not engaged in organizational training. Taping was done at S school prior to training and after training had been completed. The verbal behavior

of teachers and students was categorized using Flander's (1964) scheme of interaction analysis. It was hypothesized that a shift would occur toward more "indirect" teacher behavior at S school but that no such shift would occur during the same time-period at the other junior high school. The hypothesis was supported by analysis of the tapes. Thus, it appeared that although the training at S junior high school was directed at the organizational functioning of the faculty, effects were also visible in the classroom behavior of teachers (for details, see Bigelow, 1969).

Training Communication Consultants

The organizational training involved many important subsystems in the school district: the superintendent's cabinet, several staff divisions, the school principals, the leadership of the teachers' association, and five schools. A further part of the training put several subsystems in contact with new ways that were not only more effective than the more typical meetings but also seemed to lead to increased trust and openness among those involved. The work that had been done in the single school building the previous year led us to believe that there would be effects and growth in parts of the system not involved directly with our training, but we wanted to increase the probability that organizational development would continue and that resources would be available to aid in the continued growth of the entire district. The goal of the training was to leave the system as an independent, self-renewing system. Preparing internal

members for the role of communication consultant or change agent seemed an important step toward this goal.

The first steps in establishing the role of communication consultant in the district had already been taken when the school board approved the original contract, but it was still imperative that the role be supported with released time, a part-time coordinator, and the blessings of the district. There were several anxious moments at the end of the first year of training when the teachers were negotiating for a new contract and early reports seemed to indicate that adequate money might not be available -- but commitments for the project were high and the matter was resolved with ten days allotted to each communication consultant for the school year and a part-time coordinator appointed.

Applications were solicited from all professional members of the school district. Twenty-three district personnel were selected from those who applied. The twenty-three communication consultants represented a very wide cross section of the district: teachers, counselors, principals from elementary and secondary schools, curriculum and student personnel specialists, and assistant superintendents who are also members of the superintendent's cabinet.

Communication consultants began their training with a two-week workshop during June, 1969. The goals of the first week's training were to introduce them to many of the techniques, exercises, procedures, and

skills that we had found useful in organizational training; to provide each of them with an opportunity to explore the impact of his behavior on a group; to establish them as a cohesive, vital, functioning unit; and to give them practice in leading some training activities. The participants spent the first three days in small groups going through many exercises and activities, with participants rotating in the role of co-trainer for these activities. In the last two days of the first week, the participants were asked to design activities for themselves that would help strengthen their group as communication consultants -- activities focused either on the group or on participants' skills.

Early in the second week of the workshop, the twenty-three communication consultants divided themselves into six teams, each containing at least one CASEA trainer. The total group of consultants established potential target groups within the school district and each team of consultants selected one potential target with which to work. Among the target activities were workshops for several schools to be held prior to the opening of school or during the year, a continuation of work started with the cabinet at a senior high school, work articulating relations between principals and counselors, and work with a community advisory group. The rest of the week was spent establishing goals for training with the targets, gathering diagnostic data about the targets, analyzing the data to establish forces operating in the target groups, and designing training

that would lead to the goals of training. The CASEA trainers will withdraw from active work with the communication consulting teams about March, 1970. Until then, they will supervise some of the training activities and act as resources for the consulting teams.

The preceding sections described two programs of organizational training designed to improve the organizational functioning of a junior high school and a school district. The programs did not use the T-group as a basic building block, but the theory and goals of the training are in the tradition of NTL-L. The next section contains descriptions of some selected tools that have been useful in helping school organizations achieve their training goals.

Selected Exercises and Procedures for Organizational Training in Schools

A useful distinction can be made between exercises and procedures and between simulations and stimulations. An exercise (simulation) is a structured game-like activity designed to produce interpersonal processes that participants can easily conceptualize because they have just been manifested in their own personal experience. Each exercise is designed to make salient a certain type of group process and thereby making certain "lessons" easy to comprehend. In brief, each exercise has a particular content and product. A procedure (stimulation), on

the other hand, refers to an interpersonal form for communication in a group without any particular content in itself. A procedure can be used for a variety of tasks or purposes. An example of a procedure would be voting and another would be the "fishbowl" procedure for sharing ideas and observations.

Exercises

Exercises (simulations) have two major advantages: they can be designed to produce specifiable learning experiences and they typically have very different content from the day-to-day work of an organization. These strengths make possible very specific learning goals (e.g., using more sources of information in decision-making or encouraging more communication from faculty to administration) without having to deal with specific content that carries with it the barriers to reaching these goals in the everyday life of an organization. Through an exercise, participants can learn the advantages and deficits of one form of behavior over another and can make plans to establish more productive behaviors. Typical questions trainers ask after an exercise has been completed are, "How is the behavior exhibited in this exercise similar to or dissimilar from your behavior on the job?" and "What did you learn from the exercise that has application to your behavior on the job?"

A Non-Verbal Exercise in Cooperation -- The Five-Square Puzzle

The five-square puzzle exercise demonstrates coordination or cooperation in a group task in which communication is non-verbal. It is administered to participants in groups of five, although other participants may act as observers. The participants are given parts of a puzzle which, when assembled, make five complete squares of equal dimensions. The task is finished when a completed square is put together in front of each person in the group. The rules are as follows: (1) Each member must construct one square directly at his work place. (2) No member may talk, signal, or gesture in any way that would provide guidance, direction, or suggestion to any other group member. For example, no member may signal that he wants a piece from another member. (3) Any member may give any of his pieces to another member. (4) Each member's pieces must be in front of him at his work place except one that he is giving to another member. Only giving is allowed -- no taking.

This exercise, of course, is difficult and frustrating for individuals who are accustomed to managing others. It is also very difficult for people who are accustomed to guiding themselves by watching for signals of the expectations of others, since the rules cut such signals to a minimum. To the extent that the rules are observed (and it is difficult for most participants to apply this self

discipline), the exercise focuses the attention of the participants on discovering the ways they can be helpful to the task. It points up the great difficulty experienced in letting other people do things their own way. It also points up the great reliance we put on language to influence the behavior of others. Finally, it provides a very useful amount of information about how members of the group act toward one another under the frustration the exercise produces.

<u>An Exercise for Coordination of Planning and Execution Roles: The Hollow-Square Puzzle</u>

The hollow-square puzzle exercise focuses upon the problems of using a formal hierarchy in group problem-solving; more specifically, this exercise simulates the organizational problems that occur when one team plans something for another team to carry out. Participants can learn about the processes of team planning, problems of communication between a planning group and an implementing group, and the problems with which an implementing group must cope when carrying out a plan it did not make itself. The exercise is carried out by clusters of ten or eleven persons. Each cluster is divided into three sub-groups; "planners," "operators," and observers. Participants are encouraged to think of the planners as administrators or department heads and the operators as analogous to teachers.

The exercise is completed when the operators assemble a

square about 12 inches on a side from 16 puzzle pieces. The square has a one-inch empty square at the center -- whence the name of the exercise. The operators are aided in their assembly by instructions and orientations given by the planners.

The planners are given 45 minutes to develop and give instructions. Each planner is provided with four pieces of the puzzle and the entire team of planners has a drawing of the completed puzzle. Two key restrictions on the planners are (1) that they may not assemble the puzzle themselves and (2) that they may not give a drawing of the over-all design to the operators. The planners are also required to set aside at least 5 minutes out of the 45 to transmit their instructions (which may be in writing) to the operators. Precisely after 45 minutes, time is called and the operators must construct the hollow square without any more assistance from the planners. During the 40 minutes or less of planning, the operators are secluded from the planners and are urged to prepare in any way they please for the transmission of instructions from the planners to themselves.

The planners typically do not make contact with the operators during the planning period. They take all their allowable 40 minutes to write out detailed instructions for the operators, but take no time planning for transmitting the instructions. They then find that they cannot transmit their instructions and directions clearly in the remain-

ing 5 minutes and so waste most of their planning time, impose limitations on themselves not inherent in the instructions, become frustrated when their "perfect" set of instructions is misunderstood by the operators without being allowed to step in and "help," and fail to use all of their resources in creating and transmitting instructions. The operators, on the other hand, typically set up an organizational structure for receiving and carrying out plans which does not use the resources of the group (and is usually ignored anyway), do not try to check out the instructions as they hear them, are frustrated by their operating role, and feel subordinate to the planners. Even though written instructions are usually cumbersome and very time-consuming to prepare, oral instructions are rarely planned, even to supplement the written instructions.

Procedures

The content of an exercise is determined by the trainer and procedures are content-free and are used to work more effectively toward whatever goal the group has chosen. Under most conditions, intervening with an exercise would take a group away from a task and would be used to try to produce a new understanding inherent in the exercise. Procedures, on the other hand, typically are introduced to improve and facilitate a task the group would already be facing. In this regard, procedures are probably less obtrusive in the normal

functioning of a group and less game-like. Procedures such as the ones to be described have been useful to schools, departments, cabinets, and notably to teachers who have tried them in their classrooms to improve the learning environment (Schmuck, 1968).

A Procedure to Improve Problem-Solving

A problem is defined as any discrepancy between an actual state and an ideal state. This problem-solving sequence emphasizes clear expositions of ideal and actual states and future commitments to actions. The sequence is as follows:

1. What is the ideal state? (specify behaviors, attitudes, knowledge, etc.)

2. What, to date, has been done to move us closer to the ideal state?

3. What is the present state? To where have we got ourselves?

4. If present state is not desirable:

   a. what forces are restraining us from moving?

   b. what plans or solutions seem appropriate?

   c. what other things do we have to know before making a plan or proposing a solution?

5. Set up a summary chart of proposed activities and order them.

6. Commit individuals and the group to some plan of action. Who will do what and what should the outcome be?

This sequence is an outline of one that has been used repeatedly in our organizational training with schools. There are many variations and refinements. For instance, evaluating the present state of a problem area can be accomplished by using an analytical tool called "force-field analysis" based on Lewin's concept of quasi-stationary equilibria. Solutions and plans for action can be generated through a brainstorming technique where ideas are proposed rapidly without immediate evaluation. The emphasis of the problem-solving sequences we have used is on the systematic use of data rather than inference, on specification of end-states and present states in behavioral terms, on constructive openness and directness in talking about performance, and on commitment to action.

During the problem-solving sequence, or any other work of a group, other procedures can be useful to facilitate the flow of communication and improve the quality of the meeting. Some are described below.

Procedures to Improve Meetings

The chance to listen. Meetings are typically run to let everyone have his say without much regard for understanding by others. One procedure that could alter this situation would be to insist,

during crucial periods, that before someone speaks he paraphrase the person who just finished speaking to the satisfaction of that person. Before a proposal is decided upon, too, several people should paraphrase the terms of the proposal so that everyone is clear what is being decided. The chairman might make it his duty to insure, along with the right to be heard, that each participant be given the right to listen and be clear about communications.

High-talker tap-out. It is not uncommon during small-group discussions to find only a small percentage of the group being involved in a large percentage of the interaction. One procedure developed to deal with this problem is the "high-talker tap-out." A coordinator monitors the group to see if any participant seems to be dominating the interaction. If one or two are, then the coordinator hands them notes that ask them to refrain from further content comments -- although the note might permit comment on group process. In this way the balance of participation becomes more even.

Time tokens. Another procedure to deal with people who contribute too little or too much is the time token. Tokens are distributed to participants and may be redeemed for a specifiable amount of discussion time -- say, 15 seconds each. When a participant uses up his time tokens, he either can say nothing or be supplied with more tokens by other members of the group. This procedure has certain

advantages over the tap-out procedure; it allows an exceptional contributor to "overcontribute" with the consent of other group members; it makes the amount of participation of each member salient and very visible; it seems to urge participants to make more concise contributions; it is less obtrusive than the tap-out procedure; participants do not have to wonder about what the silence of certain members means; and participants monitor their own talking.

Fishbowl. The problems of participation in a large group are different from those in a small group. Tap-outs and time tokens might not be very useful in a large meeting. One procedure that uses some of the advantages of the small-group discussion within the setting of the large meeting is the fishbowl or theater-in-the round. In a fishbowl arrangement, a small group is formed within a circle of the larger group. The small group discusses whatever is on the agenda as the other participants observe. Empty chairs can be provided in the fishbowl so that any observing member can come in and join the discussion with the understanding that it will be temporary, thus allowing wider participation.

Buzz groups. Another procedure that can be used to spread participation in a large group is the buzz group. The meeting is temporarily interrupted while groups of, say, four to seven persons form to discuss an issue for a short time. This can be done especially

when important decisions have to be made and some staff members hesitate to express their contrary views before the entire assembly. When feelings are difficult to bring out, the buzz groups might have reporters summarize the ideas and feelings of their groups without indicating which persons expressed them. Summaries also make it difficult for any one group of members to dominate the flow of interaction.

Link-pin fishbowl. Department chairman, principal, and other positions in the school district can be called link-pin positions because their occupants are often representatives of both a lower-echelon and a higher-echelon decision-making group. Chairmen are typically members of a principal's cabinet and represent teachers; principals often represent their schools in a superintendent's advisory committee; etc. One procedure that highlights the role of link-pins and provides an opportunity to improve their functioning as representatives of the lower level of the organization is a combination of fishbowl and buzz group. The administration and link-pins (principal and department heads in the case of a school) meet in a circle in the middle of a large room. The members of the lower echelon (teachers) sit around this center group and cluster behind their representatives. The clustered group observes the work of the inner group and is especially alert to the ways in which their opinions and thoughts are being

represented in the inner group. At planned intervals, each link-pin member returns to his cluster of members to discuss his performance in the inner group and to check out the consensus in the group he represents.

Providing feedback from observers. Feedback is the life-blood of effective improvement both for individuals and for organizations. One of the major goals of the laboratory method is to improve the quality and frequency of feedback available to support and guide change. It is essential to self-renewal to establish norms for providing data to individual members about the functioning of the organization, such as members' feelings and behavior. Two procedures have already been mentioned that can help legitimize and facilitate giving feedback to a group; namely, the buzz groups and the link-pin fishbowl. With either procedure, it can be useful to provide observers with observation forms or predetermined categories within which to report back to the group. The meeting can be interrupted periodically to give the observers a chance to report their data or to give buzz groups a chance to discuss where the group is, where it should be going, and how it can get there.

Successful organizational training in schools requires a theory of the school organization and also a technology for moving from theory to practice. Most of the techniques we have been using at CASEA

were originated elsewhere, some dating back a generation. Further useful techniques are being invented at a rapid rate. We hope others will aid in the development of this work by suggesting theory and technology to us, and by testing our ideas and practices in their own work.

Footnotes

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[2]The five-square puzzle, the hollow-square puzzle, and other exercises and procedures are discussed later in this paper. These and still others are discussed in Schmuck and Runkel's (1969) preliminary training manual.

[3]For a more complete discussion of the evaluation of the organizational training undertaken with a single school building, including descriptions of data-gathering instruments, data-tables, and our judgment as to strengths and weaknesses in the design, see Schmuck, Runkel, and Langmeyer (1969) and Schmuck and Runkel (in press).

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